

Claims

## 1. An entity centric computer system, comprising:

computer hardware with one or more processors having circuitry to execute instructions; one or more storage devices available to each processor with sequences of instructions stored therein, which when executed cause the one or more processors to:

aggregate subject entity related data, and  
develop subject entity knowledge.

## 2. The system of claim 1 where the processors complete additional processes from the group consisting of analyzing all or part of said knowledge, applying all or part of said knowledge to improve entity performance, applying all or part of said knowledge to complete entity actions, distributing all or part of said knowledge, integrating all or part of said knowledge with other data, maintaining all or part of said knowledge in an automated fashion, synchronizing all or part of said knowledge and combinations thereof.

## 3. The system of claim 1 where the subject entity is defined by positions from the group consisting of being an item of one or more entity types, being an element associated with one or more entities, being an element associated with one or more entity types, being an element associated with one or more events, being an element associated with one or more actions, being a resource associated with one or more entities, being a resource associated with one or more entity types, being a resource associated with one or more events, being a resource associated with one or more actions and combinations thereof.

## 4. The system of claim 3 where entity types are selected from the group consisting of voter, precinct, caucus, city, county, state/province, regional, national, multi-national, global, household, neighborhood, community, city, region, brand, expectations, ideas, ideology, knowledge, law, money, right, relationship, service, individual, nuclear family, extended family, clan, ethnic group, organization, multi-organization, industry, market, economy, team, group, department, division, company, organization species, genus, family, order, class, phylum, kingdom, macromolecular complexes, protein, rna, dna, x-

ylation, organelles, cells, structures, organs, organic systems, organism, monomer, dimer, large oligomer, aggregate, particle, molecules, compounds, chemicals, catalysts, minerals, sediment, rock, landform, plate, continent, planet, quark, particle zoo, protons, neutrons, electrons, atoms, molecules, dark matter, asteroids, comets, planets, stars, solar system, galaxy, universe, compounds, minerals, components, subassemblies, assemblies, subsystems, goods, systems pond, lake, bay, sea, ocean, creek, stream, river, current, atmosphere, clouds, lightning, precipitation, storm, wind and combinations thereof.

5. The system of claim 1 where a subject entity is an entity, a collaboration between two or more entities or a multi-entity system.
6. The system of claim 1 where the computer hardware is a computer, a cluster, a plurality of computers connected via a network, one or more virtual computers, one or more blade servers, a plurality of computers connected via a grid or some combination thereof.
7. The system of claim 1 where the one or more storage devices is a hard drive, computer disk, datamart, data warehouse, storage area network, virtual database, contextbase or some combination thereof.
8. The system of claim 1 where subject entity knowledge includes the definition of one or more entity functions, the relative importance of the one or more entity functions, one or more entity function measures, the identity and description of current, past and future entity actions, the identity and description of elements that support the completion of entity actions, the identity and description of resources consumed during the completion of entity actions, the identity and description of environmental factors that affect the completion of entity actions, the interrelationship between elements, factors and resources, the relationship between elements, factors, resources, entity actions and entity function measure performance and combinations thereof.

9. A computer readable medium having sequences of instructions stored therein, which when executed cause the processors in a plurality of computers that have been connected via a network to perform an entity context method, comprising:

- marshaling subject entity related data;
- using at least a portion of said data to develop entity context; and
- summarizing the entity context into one or more context frames.

10. The computer readable medium of claim 9 where the method further comprises using context frames to support entity management functions from the group consisting of analyzing the impact of user specified changes on entity performance, capturing entity related knowledge from one or more subject matter experts, collaborating with others to refine entity knowledge, customizing any combination of products, services and information for the subject entity, displaying knowledge about entity performance, educating users, managers and collaborators about the entity in an interactive manner, exchanging any combination of resources, elements, commitments, data and information with one or more other entities in an automated fashion, forecasting future values of entity related variables, identifying metrics and rules for monitoring entity performance, identifying changes that will optimize entity performance on one or more function measures, optimize information technology support of entity performance, quantifying risks to entity performance, quantifying the impact of surprises on entity performance, simulating entity performance, establishing priorities for entity actions and commitments, establishing expected performance levels for the entity, reviewing entity performance using user defined measures, regulatory measures and combinations thereof, simulating entity performance, identifying the data and information that is most relevant to the entity, identifying entity preferences, loading the data and information that is most relevant to the entity into a cache, underwriting entity related securities, identifying the valid context space for entity analyses, creating a true natural language interface for the entity, developing programs for entity related devices, developing programs for bots to support entity performance, developing new entity related software programs, developing an organization ontology, delivering the appropriate portion of entity knowledge to entity related narrow systems, delivering the appropriate portion of entity knowledge to devices and combinations thereof.

11. The computer readable medium of claim 10 where the context frames can be used to support the same functionality for any collection or population of entities.
12. The computer readable medium of claim 9 where the marshaled data is obtained from the group of systems consisting of atmospheric survey systems, geological survey systems; ocean sensor systems, seismographic systems, sensor grids, sensor networks, smart dust, affinity chip analyzer, array systems, biochip systems, bioinformatic systems; biological simulation systems, clinical management systems; diagnostic imaging systems, electronic patient record systems, electrophoresis systems, electronic medication management systems, enterprise appointment scheduling, enterprise practice management, fluorescence systems, formulary management systems, functional genomic systems, gene chip analysis systems, gene expression analysis systems, information based medical systems, laboratory information management systems, liquid chromatography, mass spectrometer systems; microarray systems; medical testing systems, molecular diagnostic systems, nano-string systems; nano-wire systems; peptide mapping systems, pharmacoconomic systems, pharmacogenomic data systems, pharmacy management systems, practice management, protein biochip analysis systems, protein mining systems, protein modeling systems, protein sedimentation systems, protein visualization systems, proteomic data systems; structural biology systems; systems biology applications, x\*-ylation analysis systems, appliance management systems, automobile management systems, contact management applications, home management systems, image archiving applications, image management applications, media archiving applications, media applications, media management applications, personal finance applications, personal productivity applications (word processing, spreadsheet, presentation, etc.), personal database applications, personal and group scheduling applications, video applications, world wide web, accounting systems; advanced financial systems, alliance management systems; asset and liability management systems, asset management systems; battlefield systems, behavioral risk management systems; benefits administration systems; brand management systems; budgeting/financial planning systems; business intelligence systems; call management systems; cash management systems; channel management systems; claims management systems; command systems, commodity risk management systems; content management systems; contract management systems; credit-risk

management systems; customer relationship management systems; data integration systems; data mining systems; demand chain systems; decision support systems; device management systems document management systems; email management systems; employee relationship management systems; energy risk management systems; expense report processing systems; fleet management systems; foreign exchange risk management systems; fraud management systems; freight management systems; geological survey systems; human capital management systems; human resource management systems; incentive management systems; information lifecycle management systems, information technology management systems, innovation management systems; insurance management systems; intellectual property management systems; intelligent storage systems, interest rate risk management systems; investor relationship management systems; knowledge management systems; litigation tracking systems; location management systems; maintenance management systems; manufacturing execution systems; material requirement planning systems; metrics creation system; online analytical processing systems; ontology systems; partner relationship management systems; payroll systems; performance dashboards; performance management systems; price optimization systems; private exchanges; process management systems; product life-cycle management systems; project management systems; project portfolio management systems; revenue management systems; risk management information systems, sales force automation systems; scorecard systems; sensors (includes RFID); sensor grids (includes RFID); service management systems; simulation systems; six-sigma quality management systems; shop floor control systems; strategic planning systems; supply chain systems; supplier relationship management systems; support chain systems; taxonomy systems; technology chain systems; treasury management systems; underwriting systems; unstructured data management systems; visitor (web site) relationship management systems; weather risk management systems; workforce management systems; yield management systems and combinations thereof

13. The computer readable medium of claim 9 where entities are comprised of combinations of items, elements and resources of one or more entity types where the entity types are political, habitat, intangibles, interpersonal, market, organization, biology,

cellular, organism, protein, chemistry, geology, physics, space, tangible goods, water or weather.

14. The computer readable medium of claim 9 where the complete entity context includes entity functions, entity function measure definitions, the identity of the elements, factors, resources and events that impact entity actions, the identity of the elements, factors, resources and events that impact one or more function measures, the description of the elements, factors, resources and events that impact entity actions, the description of the elements, factors, resources and events that impact one or more function measures, the inter-relationship between the elements, factors, resources and events, the relative contribution of elements, factors, resources and events to the level of each function measure and the relationship of the elements, factors, resources, events and entity to one or more coordinate systems.

15. The computer readable medium of claim 9 where the complete entity context is developed by a series of models from the group consisting of neural network; regression, generalized additive; support vector method, entropy minimization, generalized autoregressive conditional heteroskedasticity, wavelets, Markov, Viterbi, relevance vector method, Ornstein - Uhlenbeck, Bayesian, kriging, multivalent, multivariate adaptive regression splines, swarm, probabilistic – relational, power law, fractal, data envelopment analysis, path analysis and combinations thereof.

16. The computer readable medium of claim 9 where the marshaled data is in compliance with a common schema, in compliance with a common ontology, converted to a common schema, converted to a common ontology or a combination thereof.

17. The computer readable medium of claim 9 where the entity context includes different aspects of context from the group consisting element context, resource context, factor context, reference context, measure context, relationship context, transaction context and combinations thereof.

18. An entity contextbase method, comprising:

obtaining an entity definition that specifies performance measures, identifies associated entity types and guides the automated integration of subject entity related data that define and describe an element, resource, transaction and optional reference portion of complete entity context in a database, and using the performance measures and a portion of the integrated data to complete a series of analyses to define, describe and store a factor, relationship and measure portion of complete entity context in said database.

19. The method of claim 18 where the associated entity types are from the group consisting of voter, precinct, caucus, city, county, state/province, regional, national, multi-national, global, household, neighborhood, community, city, region, brand, expectations, ideas, ideology, knowledge, law, money, right, relationship, service, individual, nuclear family, extended family, clan, ethnic group, organization, multi-organization, industry, market, economy, team, group, department, division, company, organization species, genus, family, order, class, phylum, kingdom, macromolecular complexes, protein, rna, dna, x-ylation, organelles, cells, structures, organs, organic systems, organism, monomer, dimer, large oligomer, aggregate, particle, molecules, compounds, chemicals, catalysts, minerals, sediment, rock, landform, plate, continent, planet, quark, particle zoo, protons, neutrons, electrons, atoms, molecules, dark matter, asteroids, comets, planets, stars, solar system, galaxy, universe, compounds, minerals, components, subassemblies, assemblies, subsystems, goods, systems, pond, lake, bay, sea, ocean, creek, stream, river, current, atmosphere, clouds, lightning, precipitation, storm, wind and combinations thereof.

20. The method of claim 18 where said integration of data further comprises identifying the location and context layer of data prepared in accordance with the common schema, identifying the location, conversions and context layer of data prepared with a different schema, identifying the location, conversions and context layer of data stored with a different schema, identifying the location and context layer of data prepared in accordance with the common ontology, identifying the location, conversions and context layer of data prepared with a different ontology, identifying the location, conversions and context layer of data stored with a different ontology and combinations thereof.

21. The method of claim 18 where the element, resource, transaction, factor, relationship, measure and optional reference portion of context are each stored in separate layers within said database.
22. The method of claim 18 where the database comprises a relational database, virtual database, contextbase or some combination thereof.
23. The method of claim 16 where the series of analyses are completed by a series of models from the group consisting of neural network; regression, generalized additive; support vector method, entropy minimization, generalized autoregressive conditional heteroskedasticity, wavelets, Markov, Viterbi, relevance vector method, Ornstein - Uhlenbeck, Bayesian, kriging, multivalent, multivariate adaptive regression splines, swarm, probabilistic – relational, power law, fractal, data envelopment analysis, path analysis and combinations thereof.